State Government

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Among the States

Ohio Atomic Energy Council.—Governor Frank Lausche late in October announced establishment of a Governor's Advisory Council on Atomic Energy to aid the state in furthering development of nuclear energy for peace. The Governor appointed an executive committee of twenty members to guide the council's work. Scientists, educators and leaders in business, industrial, labor and other fields comprise the committee. The full council includes seven study groups of eleven members each—to work in the areas of industrial development, control and regulation, agriculture, compensation and insurance, education and personnel training, health and safety, and research.

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Alternate Atomic Agencies Proposed.—Two approaches to establishment of a state atomic radiation protection agency have been submitted to the **California** Senate Committee on Governmental Administration by its Radiological Services Advisory Committee. A majority of eleven recommended an agency with strong powers. A minority of seven suggested creation of a radiological safety board authorized to study and advise.

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Highway Department Merit System.—The **Arizona** State Highway Commission has authorized a modified, flexible merit system for the State Highway Department. A highway economist has been named to direct the new personnel program. Details remaining to be worked out include a comprehensive job and salary survey.

•

Georgia Aerial Survey.—The Georgia State Highway Department's aerial photography unit, now less than two years old, has proved invaluable for highway planning. Aerial photographs, it is reported, permit more rapid selection of the best possible routes, reduce the need for engineers and other scarce technical talent by eliminating many ground surveys, and sharply cut the cost of locating sites.

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Open Kansas Turnpike.—The new Kansas Turnpike—stretching 236 miles across southeastern Kansas from Kansas City to a point on the Oklahoma border south of Wichita—opened late in October. It is a $160 million project—described as the largest private financial venture in the state's history.

•

Weight-Distance Tax.—A highway use tax law has been drafted for legislative action in **Montana** next year. The tax, often called a weight-distance levy, is used in several states. The Montana proposal was prepared by its Fact Finding Committee on Highways, Streets and Bridges.

Wisconsin Driver Tests.—In the first four months during which state examiners handled all driver license testing in Wisconsin, approximately one-third of the applicants failed the test. Melvin O. Larson, Commissioner of Motor Vehicles, announced that of 61,310 applicants, 7,690 lacked knowledge of the rules of the road, could not recognize road signs, or had deficient vision. Of 46,334 given road tests, 12,875 did not meet the standards used by the trained examiners. The new system—supplanting a much less rigorous one in which a handful of state examiners shared the testing job with local police and other local law enforcement officers—began May 1.

•

Lousiana Special Session.—The Louisiana legislature met in special session from August 30 to September 10, partly to supplement the work of the regular session which adjourned July 12. The special session removed one proposed constitutional amendment from the November ballot—an amendment to repeal the requirement of two-thirds vote in the legislature to levy new taxes or increase existing ones—and added to the ballot another amendment which would dedicate surplus funds for teachers' salaries. A race track tax increase was approved and part of its revenues dedicated to various activities, including $80,000 annually to the Legislative Council. More than half of the measures enacted in the special session were concerned with corrections or minor changes in acts of the regular session.

•

Massachusetts Regular Session.—The Massachusetts legislature prorogued in October, after the third longest session in the Commonwealth's history. State appropriations for the ensuing fiscal year reached a new high of $363,423,390—including the general appropriation bill, specials and supplementaries. A $26 million capital outlay bond issue was approved for state office construction, park development and equipment. A total of $300 million in long term road-construction funds was approved, $100 million of it in the form of contract authorizations in anticipation of federal grants under the expanded highway-aid program. As part of the highway financing, the gas tax will go up ½ cent per gallon on July 1, 1957. No other new taxes were approved, but all expiring temporary taxes were renewed for another year.

The legislature adopted a number of court reform measures, following recommendations of the Judicial Survey Commission. Among enactments were laws for (1) reorganization of the district courts—including addition of thirty-one courts under full-time judges; (2) mandatory retirement at 70 of judges appointed in 1956 and thereafter; and (3) establishment of the post of Executive Secretary for the Supreme Judicial Court, to oversee work of all state courts and provide for improved court administration.

A number of measures affect industry and labor. Un-

employment compensation benefits were increased—the minimum to $10 weekly and the maximum from $25 to $35 per week. The state minimum wage was increased from 90 cents to $1.00, with permission for certain exceptions. Maximum workmen's compensation benefits were raised, and coverage was expanded to include all firms with one or more employees determined to be in hazardous work. Maximum benefits for widows and children of workers killed in industrial accidents were increased from $20 per week to $25. A State Rehabilitation Commission was established, under a commissioner, to coordinate all state activities for rehabilitation of injured workers.

The legislature increased the pay of some 33,000 state employees under a job salary reclassification, and it increased pay of legislators to $5,200 a year. Minimum salary for school teachers was raised to $3,000 a year.

Several new agencies were created for special functions. The legislature established a division to coordinate state agency activities on water resources, water use and flood control; a Commission on Alcoholism and a Commission on Atomic Energy—the latter to coordinate activities for civilian use of nuclear materials; a higher education authority to provide loans for students seeking a college education; and a Massachusetts Port Authority for economic development in the Boston area—the authority to take over all major bridges, tunnels, airports and pier facilities and to construct new facilities. Another act reorganized the State Board of Probation into a state agency headed by a commissioner to supervise probation work, inspect records, and establish work standards and case loads.

Affecting interstate cooperation the legislature authorized contracts with other states for joint return of parole and probation violators, ratified the Interstate Compact on Mental Health and ratified the Merrimack River Flood Control Compact.

The session broadened regulation of small loans, to include amounts up to $1,500, and of consumer finance practices on conditional sales. Among other acts it provided for stiff fines and penalties against those who sell or distribute to minors "comic books" featuring horror, crime and the like.

•

New Idaho Budget Procedure.—Idaho's State Legislative Budget Committee has met to study and report to the Governor on the 1957 budget. Under a new procedure adopted by the 1955 legislature at the request of Governor Robert E. Smylie, the proposed biennial budget is to be made available to legislators and the public before the legislature convenes. The committee, comprising six legislators, was appointed by Lt. Gov. J. Berkeley Larsen and Speaker of the House R. H. Young, Jr.

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OASI in Government.—More than 1.8 million persons, comprising 37 per cent of all state and local government employees, were covered by old-age and survivors insurance as of July 1, according to a report by the United States Social Security Administration. The report listed **Michigan, New Jersey, Texas, New York** and **Indiana**, in that order, as having the largest numbers of such employees covered.

•

Mental Hospital Population.—Despite a record high admission rate of more than 10,000 a year, the number of patients in **Ohio's** hospitals for the mentally ill recently dropped to 26,782, the lowest figure in more than two years, according to the Ohio Department of Mental Hygiene and Correction. Contributing to the reduced number, it was indicated, were a substantial increase in treatment personnel of the state's mental hygiene program; success of tranquilizing drugs in making patients amenable to treatment; and increase of social services which enable discharged patients to make successful transitions back to the community.

•

National Association of Reimbursement Officers.—One of the first projects of the National Association of Reimbursement Officers is a detailed survey of reimbursement programs affecting mental patients in the various states. The association comprises persons responsible in many of the states for establishment and collection of charges for patients in public mental institutions. The organization was formed last May in Chicago following preparations by reimbursement officials of California, Illinois, New York and Texas.

Under examination in the survey are such aspects as collections, rates charged, sources of collections, and how the proceeds are to be used.

Discussions of these over-all problems have involved the amounts of moneys reserved in estates of patients or in trust accounts for them to cover such needs as clothing, small comforts, rehabilitation or burial needs; administrative costs of operating reimbursement organizations; uses made of collections in the various states and the manner of earmarking and distributing them; and problems concerning realty holdings of mental patients.

The permanent purpose of the new association is to increase interstate exchange of information in this field and to provide a channel for mutual assistance in improving programs and policies, which now vary widely among the states.

•

New York Adoptions Decision.—In a precedent making decision, a New York Surrogate Court has held that the natural parents of children placed in foster homes forfeit their right to challenge adoption of the children if they fail to visit them in the foster homes during an unbroken twelve-month period. In the case at issue two children were placed with foster parents through the New York City Department of Welfare. The natural parents neither visited nor made inquiries concerning them for several years. Noting the effect of the ruling, District Attorney Edward S. Silver of Kings County declared: "This decision will make more children available for adoption and naturally (will) cut into the child black market racket."

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At the Southern Governors' Conference of 1956, in White Sulphur Springs, West Virginia, the address at the Annual State Dinner on September 10 was by Admiral Arthur W. Radford, Chairman of the Joint Chiefs of Staff. STATE GOVERNMENT *presents the text of his paper here. Although Admiral Radford directed it particularly to the Governors and their parties at the Conference, he was pointing to a central, basic task as the business of all America.*

Our Great Task

Address by ADMIRAL ARTHUR W. RADFORD, Chairman of the Joint Chiefs of Staff, Before the Southern Governors' Conference, 1956

As GOVERNORS, and as members of Governors' staffs, you share with those of us in the Armed Forces an important task—the task of protecting and preserving the fundamental beliefs and institutions of the United States—beliefs and institutions which are so sacred to us that we declare them to be self-evident.

Tonight, I would ask each of you to reflect for a moment on how we participate in, and carry out, our great task. How effective do you think we are in the promotion of human understanding and justice? How well do we explain to others our principles of Liberty?

As a result of my studies of history, and also my travels abroad, I have become increasingly concerned about the rise and fall of ideals in human minds. In three years as Chairman of the Joint Chiefs of Staff, I have had occasion to visit twenty-six countries in the European, Middle East and Far Eastern areas, and to talk with many of their civilian and military leaders. Some of these nations I have visited four or five times.

Frankly, I get the feeling that we sometimes are not doing as well as we think we are, or as we should be. We seem either unable, or too lazy, to do enough to explain, teach, and most of all—demonstrate publicly before the world the fundamental, basic facts of Liberty.

For example, here at home, too many young men come into the Armed Forces with too little understanding of their responsibilities for citizenship. There are too many who are apathetic toward responsibility and complacent about the long-term continuance of their society.

As a result, when these young men are sent overseas, it becomes evident that they are not well enough equipped to convince others that the path of Freedom is the best path—that it is truly worthy of personal sacrifice. Then as a further result of that, our moral position before the world becomes badly misunderstood. In some cases, it even becomes cleverly twisted and used against us.

COMMUNIST DOCTRINE

The world situation does not warrant apathy, complacency or self-satisfaction. For there is in the world today an aggressive, authoritarian Communist doctrine which openly poses a major threat to the beliefs and institutions we revere.

That doctrine is well contrived and highly articulated. It claims there is no God; jeers at our principles of morality, loyalty and integrity; is intolerant of the peoples it subjugates; and has committed itself to expansion by intimidation and force.

In that doctrine, Americans are pictured as rich, boastful, and condescending—both as a nation and as individuals. It may be that too often we parade only our superior mechanical devices and our dollars—and that sometimes we forget to demonstrate a sympathetic understanding for those aspirations of other peoples which are essential to the growth of human dignity.

By contrast, the Communists parade offers of cultural and economic assistance, particularly in countries where there exists, or where they can create, social and economic unrest. They hold out promises of change for what they claim will be better, and they invite nations who are Free to break ties with old friends and join a new co-existence.

The Communists are determined. Their speech is persuasive. Their vocabulary is clever. And their use of words plays tricks on the unsuspecting. For example, they too use the words "Freedom," "Peace," and "Truth." But from their lips these words have far different meanings. Indeed, the English and Russian words ought not to be equated to each other, even in our dictionaries.

In my judgment, the Communist Bloc will continue to pursue any policy that is to advantage. If delaying tactics are called for, delay will be the pattern. If aggressive tactics seem opportune, then aggressive tactics will be the means. And if advan-

tages are to be gained by seeming agreement, then the Communist Bloc will be cynically agreeable.

But whether it is delay, aggression, or agreement, their long-range goal will remain remarkably consistent. The Communists are ready and set, by an insidious combination of militant dictatorship and treacherous ideology, to subvert and subdue if possible, any ideology which obstructs the spread of their own.

We cannot write Communism off the books simply by saying: "Oh, it can't happen here." Because it can—if we allow ourselves to lower our guard or diminish our active patriotism. Already a billion individuals from the Baltic to the Pacific have been inveigled or forced under their control. Against a horizon twenty-five or fifty years from now, our success or failure in today's conflict becomes especially important.

THE GAP

We who are Free must face up to our responsibilities in this battle for men's minds. We must know and understand what Liberty means, and be convinced that it represents the best way of life in today's world. More than this—much more than this—we must be able to demonstrate this conviction to others. The force of example is more eloquent than words.

Now by what means can we accomplish this?

In the military, we have endeavored to determine some of the answers. For the past two summers, eminent educators and military men have spent a substantial amount of time serving on the Secretary of Defense's Advisory Committee on Prisoners of War.

In the course of their investigations, they listened to hundreds of witnesses. They talked with doctors, psychologists, educators, clergymen, but most of all, they listened to what the former prisoners themselves had to say.

The overriding conclusion drawn by this Committee was that the men in our Armed Services need a better grounding in the fundamentals of Liberty. They also concluded that our American society must impress more deeply on our young people of today the responsibilities of Freedom.

In my capacity as a military man, I am deeply concerned about this. I want our men and women in the Armed Forces to have every means we can devise to defeat the enemy's techniques. I consider it equally essential to arm them with the best weapons of the mind and spirit as to provide them with the best modern machines of war.

And so should you. I would say that for all intents and purposes we are participants in a battle between good and evil—a struggle between light and darkness.

The struggle is deadly. All that is necessary for evil to triumph is for good American citizens to sit back and do nothing.

A PROGRAM

For us to sit back and do nothing is not the American way of doing things. We have important tasks to perform.

One important task is military defense—the maintenance of sufficient strength to prevent a war from ever happening in the first place, or to win it if it does occur. Our security still rests on the bedrock of ready military strength sufficient to deter aggression if humanly possible, and if not, then to defeat it.

But the Communists have been assiduously gaining control of people by other means—psychological, ideological and economical. Their battlefield is all-inclusive. With Communists, the home front is the fighting front, and they place the danger on every doorstep.

Actually, I do not feel that the challenge is really so much the strength of Communist convictions as it is the failure on our part to live more convincingly the faith that built America.

Liberty is no prize given to a man for the singular achievement of having been born an American. It is something that is earned by each generation. For you and me, it must be earned by our own efforts. The kind of Freedom really fundamental to America is the kind that will have to be earned again and again.

Accordingly, our great task is also one of supporting the broad purposes of our Government, strengthening our national fibre, educating our young in moral principles, offering our prayers, and making ourselves better citizens in everyday life, all in Freedom and in the dignity of self-respect.

This is where you have an important role to play and where you can be so everlastingly helpful. The task is fundamental and must be shouldered by each of us. The program we pursue can be charted. It can be broad and encompassing; and it must be at least double-barreled, one barrel of which is military training, and the other is civilian education.

HOME, CHURCH AND SCHOOL

It would be normal for us to expect to load first the civilian education chamber of our double-barreled gun, because that education begins prior to entry into the Service.

Education begins in the family. Parents are the real molders of character. The place for children to learn "how" to live is "where" they live.

This education is then continued and expanded in our schools and churches, where professional educators work to develop an understanding of citizenship. Young minds are developed to appreciate

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Suggested State Legislation for 1957

THE Council of State Governments Committee of State Officials on Suggested State Legislation has prepared a full budget of draft proposals in its report *Suggested State Legislation—Program for 1957*.

Known for many years as the "Drafting Committee," the group has taken on a new title this year, but its function remains the same—to prepare suggestions dealing with current matters for consideration by the state legislatures. Under the chairmanship of Deputy Attorney General Harrington Adams of Pennsylvania, the committee consists of some three dozen legislators, members of commissions on interstate cooperation, Attorneys General or their deputies, and Commissioners on Uniform State Laws.

During the past year the committee has developed closer and distinctly fruitful relationships with the National Conference of Commissioners on Uniform State Laws. All proposals on the agenda of either group are now scrutinized in joint sessions. This eliminates any duplication of effort and assures full utilization of skilled draftsmen in particular fields.

Suggested State Legislation—Program for 1957 is a 207-page document which can be summarized only briefly here. It consists of three sections: one containing proposals in the form of draft legislation; another carrying statements that deal with matters of interest to the states generally, without draft bills; and a final section devoted to new acts promulgated by the National Conference of Commissioners on Uniform State Laws.

Interstate Compacts. The report carries the full text of the *Interstate Compact on Juveniles*, together with suggested legislation for ratification as well as a comprehensive explanatory statement. The compact provides for (a) cooperative supervision of probationers and parolees when it is deemed in the best interest of the juvenile offender to permit his transfer to another state, (b) the return of runaways, escapees and absconders, and (c) additional measures for public protection and for improved facilities to care and treat juvenile offenders, including cooperative institutionalization of special types of juveniles.

The report also contains the *Interstate Compact on Mental Health*, with explanatory materials and a recommended enabling act. This compact is designed to eliminate technicalities of residence and settlement as the sole criteria for giving care and treatment to the mentally ill. It provides for transfer of patients to other participating states, when clinical determinations indicate that this will benefit the patient. It permits cooperative out-of-state aftercare for patients on convalescent status. And there is authorization for supplementary agreements and contracts whereby small groups of states can provide special facilities on a joint basis.

The *Interpleader Compact*, which first appeared in the committee's 1955 report, is carried again, with important perfecting amendments to make it more operable. Purpose of the compact is to permit complete and efficient settlement of adverse claims to property held by "stakeholders," such as banks and insurance companies.

Another compact, dealing with detainers against persons in custody, will be described at a later point.

Boxing and Wrestling Code. The suggested boxing and wrestling code is the result of cooperative efforts by the National Boxing Association, the Committee on Suggested State Legislation and the Commonwealth of Pennsylvania. It was drafted after an intensive study of state boxing and wrestling laws, rules and regulations, and it provides for comprehensive supervision under a licensing system.

Coordination of Atomic Development. The 1954 amendments to the federal Atomic Energy Act made activities involving nuclear materials subject, for the first time, to state control and regulation. A draft measure approved by the Committee on Suggested State Legislation provides for general coordination of developments in the fields of atomic energy and radioactive materials. The act would create the position of atomic development coordinator in the Governor's office; would provide for review of administrative regulations affecting atomic energy; and would authorize continuing, coordinated studies of the effects of atomic development.

Employee Welfare and Pension Funds. Only since World War II have welfare and pension funds for employee groups become widespread in our economy. These funds are not generally covered by state insurance laws, although the function is basically one of insurance. *Suggested State Legislation* outlines recommended types of provisions to be included in state laws for regulation of such funds, and it sets forth text of a proposed state law on the subject as developed by the National Association of Insurance Commissioners.

Detainers and Multiple Offenses. A detainer may be defined as a warrant filed against a person already in custody with the purpose of insuring that he will be made available to the authority that has placed the detainer. Difficulties in the existing de-

tainer system affect judges, institutional officials, paroling authorities and those detained. The committee recommends five guiding principles for improving the system, and offers the following four items of suggested legislation:

(A) *Disposition of Detainers within the State.* A suggested statute would permit a prisoner to clear up detainers which have been lodged against him by testing their substantiality and by securing final judgment on any indictments, informations or complaints outstanding against him in the state. The act provides that a prisoner may request final disposition of the charges. If trial on them is not had within a reasonable time, the charges cease to be of further force, and the detainer based on them is of no effect.

(B) *Agreement on Detainers.* An Agreement on Detainers is offered that applies to the interstate field the principles embodied in the intrastate act. The agreement makes possible, at the instance of the prisoner, the clearing of a detainer placed against him from another jurisdiction. It also provides a method whereby prosecuting authorities may secure prisoners, incarcerated in other jurisdictions, for trial before expiration of their sentences. Since problems in the detainer field are both interstate and federal-state, the agreement provides that the United States may become a party.

(C) A suggested amendment to basic state parole acts is recommended to assure that there is authority to parole a prisoner to meet a detainer.

(D) An act is offered that would authorize judges, upon sentencing a prisoner for a serious charge, to merge the sentence with that of a previous, less serious offense, thus permitting a single program of correctional treatment with no overhanging detainer.

Comic Books. In preparing suggested legislation dealing with "comic books," care was taken to avoid any type of advance censorship by public officials. Rather, the suggested act provides the means for law enforcement officials and courts to keep clearly undesirable material from children under 18 years of age. Publication or distribution for resale of comic books containing terror, violence, crime and the like is prohibited, and the sale of such books to persons under 18 is forbidden. Tie-in sales, requiring newsstand operators to accept comic books in order to get their regular quota of standard publications, are banned. The act is put forward as a guide for states which determine that self-regulation by publishers of comic books is inadequate.

Vocational Rehabilitation. Here the committee recommends a basic state act, providing necessary organizational machinery and administrative procedures for an adequate vocational rehabilitation program. Many states now operate in this matter under legislation geared solely to the acceptance of federal grants-in-aid. In view of recent amendments to the federal act, independent state legislation setting forth basic policies is important.

Highways and Motor Vehicles. The report contains a number of proposals and statements on highway safety, motor vehicle regulation and related tax matters. Included are suggestions on (1) state assistance in enforcement of local property taxes on motor vehicles; (2) admissibility of radar speed tests as evidence in courts; (3) elimination of "speed traps"; (4) taxation of heavy trucks engaged in interstate operations, providing for equitable allocations and pro-rating among states; (5) uniform bus inspection standards to serve as the basis for reciprocal agreements to eliminate duplicate inspection; (6) the "point system" for revoking drivers' licenses; and (7) reciprocity in enforcement of motor vehicle financial responsibility laws.

Government Operations. In the field of public administration, including intergovernmental relations, the report carries either suggested legislation or statements of recommendation with regard to a number of subjects. Treated are (1) an act authorizing initiation of reorganization plans by the Governor, subject to veto by the legislature; (2) problems of metropolitan areas, including a suggested act for a state office of local affairs; (3) a general enabling act under which localities (cities, counties, towns, etc.) may do jointly or cooperatively whatever they have the power to do alone; (4) bonding of state officers and employees; (5) the problem of cession and acceptance of legislative jurisdiction over lands owned by the federal government; (6) principles governing legislation to establish a centralized state department of finance and administration; (7) codes of ethics to guide state legislators and administrative officials and employees; (8) effective development of state planning services; and (9) lease-purchase programs for construction of federal buildings and facilities. A statement is presented regarding reports of the federal Commission on Intergovernmental Relations.

Armed Forces. As in past years, the 1957 report has a number of proposals dealing with members of the armed forces, organized reserve forces, and related matters. Among the entries are proposals on: (1) hunting and fishing licenses for military personnel; (2) leaves of absence for persons teaching dependents of civilian and military personnel overseas; (3) leaves of absence from public employment for reserve military training; (4) renewal of driver licenses for members of the armed forces; (5) ab-

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At the Western Regional Conference of the Council of State Governments late in September at Santa Fe, New Mexico, particularly close attention was directed to civilian atomic development and the role of the states in it. Papers on the subject and panel discussion of it underlined the urgency of increasing state involvement in this field and pointed to large opportunities that impend. STATE GOVERNMENT *here presents two of the addresses—the first by Senator Anderson of New Mexico, Chairman of the Joint Congressional Committee on Atomic Energy.*

The Atom— Everybody's Business or Nobody's Business?

By United States Senator CLINTON P. ANDERSON

THERE is an old saying that what is everybody's business is nobody's business. Translated into the field of atomic energy this might be construed to mean that the atomic energy industry began in 1942 as the army's business, then became the business of the Atomic Energy Commission. Likewise, it might be argued that atomic energy, at least in its warlike aspects, as a result of secrecy has been the business of the few—not of the many.

So, as atomic energy speeds from the warlike aspect which was almost nobody's business, into the peaceful program, a new pressure arises for determining whether the atom is to become everybody's business or whether it is to remain the AEC's business. We must decide what is federal business, what is state business, what is everybody's business, and what is nobody's business.

This calls for a look at the atomic energy industry. Most industries start locally on a small scale and come under federal regulation only when they grow so large that they begin to affect interstate commerce. On the other hand, the atomic energy industry grew from the top and trickled down. It was created and nurtured by the federal government by the appropriation of large sums of money and the construction of enormous installations to force nature to yield her secrets.

By 1954 this upside-down industry had reached such huge proportions that the federal government, through a revision of its atomic energy statute, recognized and indicated its willingness to relinquish at least part of its monopoly. Until the passage of this Act and, in fact, until the defeat in the 2nd Session of the 84th Congress of proposals to speed up our peacetime reactor program, the development of the atomic energy industry progressed almost as if state governments did not exist. Under conditions prior to 1954, this is not surprising. Activities in the field were a concern of the national government almost exclusively. Almost all important facilities were owned by the national government, means of finance were provided by the national tax power, major policy decisions were made by national officials and were hidden from state governments by a cloak of high secrecy. Private organizations, to the extent they participated in the development of the industry (which they did to a very great extent), functioned primarily as agents of the national government. State governments accordingly could reasonably remain unconcerned. This is prior to 1954—prior to 1956. But is it the case today? Has state unconcern now become state concern? In my opinion it has.

EFFECT OF THE 1954 ACT

Three important changes, each having far-reaching significance for state governments, resulted from the passage of the 1954 Atomic Energy Act. First, a new legal class of private parties was created—licensees under the 1954 Act. Heretofore, private persons and organizations supplied atomic energy facilities and possessed special nuclear material as employees, agents and contractors to the national government. Now, after the 1954 Act, many of them are permitted to engage in similar activities as licensees. As licensees they are incapable of claiming federal immunity from state laws and regulations.

Second, the initiative for many important decisions is shifting from Washington and the Atomic

Energy Commission to private industry and to the states themselves. Heretofore, the course of our major development in the atomic energy field was determined exclusively by the national government. Henceforth, power to make important decisions will be vested in hundreds of private corporations, state agencies and state subdivisions.

Third, there is a change in the program which might spring as much from the advancing atomic art as from the 1954 Act. It lies in the direction, the nature and the pace of atomic energy development, controlled increasingly by the trend to private financing and operation of nuclear power reactors. Then, too, the use of radioactive isotopes is soaring. Research by private and public groups points to many commercially attractive operations in the near future, and this research is increasing as elements of competition enter the atomic scene.

Moving rapidly into this pattern of burgeoning industry are the state governments. For each state these changed conditions will mean new and challenging problems, only a few of which can be perceived today. Although I cannot assess the full list of these problems, it may be possible for me to explore those we can now see and to indicate, in some degree, the measure of their impact. Also, I think I should say at this point that, while I may attempt to separate these changes in order to discuss them and to understand their interplay, it should be remembered that in many situations their effects will be overlapping and cumulative.

I also want to call attention during my discussion to three other aspects of the atomic energy scene today. They will be vital to the survival of this nation and to its individual states. These are the shortages of trained manpower, the possible cross fire of state and federal jurisdictions dealing with sanitation and atomic wastes, and the conflict in the safety aspects of atomic development.

GROWING CONCERN OF THE STATES

It is a natural concern of the state to protect and benefit its own citizens. This concern covers health and safety, workmen's compensation, insurance, public utility regulation, zoning and planning, financing and securities, civil defense and probably many other state responsibilities. Even airport and highway authorities may be involved. Thus, the significance of those sections of the 1954 Atomic Energy Act which permit private ownership of facilities for the production or use of special nuclear material under appropriate licenses from the Atomic Energy Commission might be illustrated by the case of a utility company which has decided to build a power reactor. Unlike the contractor operators at Hanford, Oak Ridge and Savannah River, the utility company will, as a private entity rather than agent of the national government, be subject to state controls and policies on many sides. In addition, it will be subject to federal controls and policies. In some cases it may be caught in a cross fire between them. Moreover, state and federal controls and policies may not be consistent. They are more likely to be totally inadequate, formulated in many instances long before 1954 and administered piecemeal by a wide range of state agencies. The difficulty encountered by a utility in threading its way through this maze of state control may be heightened by the state of unconcern or lack of imagination existing in the various state agencies.

Until now, the Atomic Energy Commission has had exclusive responsibility for controlling radiation hazards of its reactors. But once a private utility begins to operate a reactor, the State Public Health Department may legitimately concern itself, and it may not apply the same safety standards as the AEC. In addition, the State Labor Department has responsibilities for the occupational safety of workers, and it may apply different safety standards from those of the Atomic Energy Commission or the State Health Department. A real conflict might possibly arise between regulations. Not only may one statute be more strict than another, but compliance with the one might necessarily involve violation of a different statute. With this conflict in mind, it is easy to understand the position of the Governor of Michigan and the labor organizations in the Detroit area in opposing the construction of a reactor of questionable safety near Detroit until all standards of safety had been met, even though the reactor had received the blessing and the go-ahead of the Atomic Energy Commission.

State agencies have had no responsibilities in many of these fields until recently because no reactors have been built by private industry with their own money. But as the state utility commissions come on the scene, they may be required to issue certificates of convenience and necessity before a utility can spend its money on such a facility. A state commission, as pointed out in an excellent article in the Winter, 1956, issue of "Law and Contemporary Problems,"[1] may even have to question the soundness of the policy of a utility to build at this time a generating plant of unknown reliability rather than to wait five or ten years for the removal of the uncertainties. In the case of the Detroit-Edison reactor, state agencies have not been permitted to have access to safety information, much less to data which would make clear the reactor's economic function and the proper allocation of its possible excess costs to present and future rates. How can a state agency decide whether consumers

[1] "The Role of the States in Atomic Development" by William A. W. Krebs and Robert L. Hamilton.

are adequately protected even from an inadequate fuel element supply if it cannot have access to background information? And can the agencies of the nearby states have any word about the construction and operation of a reactor located outside their boundaries and therefore out of their jurisdiction even though the power it produces is sold within their boundaries?

LOCAL CONSIDERATIONS

Until the last year or so, the location of new power reactors was exclusively within the control of the Atomic Energy Commission. It still exercises immense control since it is able to deny permits for reactors which do not meet its approval. Yet, under the law, not only state governments, but even local authorities and business interests may be able to assert some degree of control. We have discussed briefly the state functions. At the local level this control will find expression in zoning regulations, building codes, private restrictions and community sentiment. It would be interesting to speculate upon the success of a utility company which sought to impose a power reactor on a neighborhood which considered it a nuisance. This view of nuclear power development as a prize to be sought or as a nuisance to be abated can have considerable effect upon the atomic power development within a state.

There are other considerations as to the local acceptance of a power reactor and the radioactivity associated with it. We in New Mexico live within the drainage of two vast river systems—the Rio Grande and the Colorado. These huge drainages stretch across many states and vary in altitude from almost three miles to sea level. They provide an empire with food and fiber. Yet they may not be large enough to carry away safely even the minute quantities of radioactive waste discharged by reactor coolants. Thus, what we have tended to look upon as an infinite blessing in the past becomes finite in the atomic age and may be a limiting factor as to the number of power reactors which may be located on a particular river system. The problem, in this light, involves local, state and national interests in the development of water supplies for domestic, agricultural and industrial uses, and requires an understanding and cooperation of state officials on a level and magnitude hitherto unknown.

SHIFT IN INITIATIVE FROM AEC

When I outlined the three new conditions imposed by the passage of the Atomic Energy Act of 1954, I suggested as a second condition the shift in initiative for important decisions from the AEC to the managements of widely operated public and private organizations. The change falls primarily upon the state agencies concerned with the development and promotion activities—activities which may assume unique importance in this new industry.

Prior to 1954, atomic energy facilities were erected and located by the Atomic Energy Commission primarily to meet national strategic and economic policies. Now and in the future, however, the management of a public utility company must be substantially influenced by other considerations. Heaviest among these are the probable economic consequences. For example, a utility company operating in a high-cost area may decide to construct a costly power reactor which will operate at a loss sooner than a company operating in a low-cost area. Likewise, a company located in a state which taxes utility income rather than utility property will be less concerned about the costs of getting into the atomic power business than the company which will be taxed for extravagance. Further, the company in quest of a site is more likely to choose a state where the development agency is informed and aggressive rather than a state where the government is indifferent or ignorant to the unique needs, interests and problems of the atomic industry. Variations in tax structure, labor markets and treatment of foreign corporations will all be weighed by the organization making the decision.

The role of the states in this atomic scene involves that intangible condition known as "climate." Uninformed members of the regulatory boards or agencies, and unenlightened state legislatures, the attitudes of Governors, mayors, and county commissioners and the general state of public opinion can shape this intangible but significant climate which, in turn, affects the speed and direction of a state's atomic growth.

Another aspect of the climate within a state might be exploited by municipalities owning their own power supplies. Dr. William A. W. Krebs and Robert L. Hamilton, authors of the article to which I referred a moment ago, "The Role of the States in Atomic Development," say: "It is not inconceivable that a state might authorize construction of a power reactor in its own right as a means of meeting high developmental costs . . . with an eye to distribution of the power produced and dissemination of the lessons learned to the existing power companies in its territory on some equitable basis."

CHANGE IN DIRECTION AND PACE OF DEVELOPMENT

The third new condition I mentioned as having profound effect upon state responsibilities is the trend to private financing. This trend, in turn, will have a tremendous impact upon the direction, and the kind, and the pace of atomic development. There are other implications in this category. One is insurance. The Joint Committee on Atomic

Energy, which I am serving as Chairman during the 84th Congress, spent much time on the subject of insurance or indemnity last spring. It is obvious that state governments and municipalities have an interest in the type and extent of insurance against potential atomic hazards. State authorities clearly have a role to play in the effort to meet the pressing needs of privately financed atomic energy industry for insurance of all kinds. Budding atomic enterprises are engaged in a feverish search for capital. There were hearings during the recent session of Congress on suggested changes in the Holding Company Act, which would permit companies to enjoy exemption from certain existing monopoly regulations so that they might join together to pool their research resources and enter this tremendously costly field. What should be the policy of the states in dealing with concerns whose key asset is a revokable license to use government-owned special nuclear material, or to concerns having commercial activities which might involve classified information? What can you ask, and why should they answer?

The unprecedented uranium search which has benefited my state perhaps more than any other was sparked by federally pegged prices. The result has been a severe test of state mining laws and the substitution in some cases of Atomic Energy Commission regulations where no law exists.

There are other problems. Experiments in the preservation of foods by irradiation are proceeding at an extremely promising rate. Not long ago, several members of the Joint Committee on Atomic Energy ate a meal of fried chicken and vegetables which had been preserved without damage for several months at room temperature by this new method. I did not participate in this feast but some of my colleagues did, and they termed the meal delicious. Once these techniques are perfected and this food is available at your nearest supermarket, state food and drug authorities will have new problems to face and new fences to patrol. Even though the Atomic Energy Commission may have exclusive control of the new processing operation from a health and safety point of view, I cannot help but wonder if its authority or the scope of its administration extends to the relationship between the wholesaler and the corner grocery. That may be your field.

As the number of industrial, agricultural and medical applications of atomic energy increases (and it has snow-balled within the past two years) the nation will come face to face with what, in my view, is one of the most pressing problems ever to confront the United States. That is the increasing demand for specifically-trained personnel in the face of a mounting shortage of this type of worker.

THE MANPOWER PROBLEM

The manpower problem is one which has grown imperceptibly over a period of years until it confronted us during the recent war and the period since as a full-blown crisis. The government, through its several agencies, has been collecting information for colleges, from industry and from all other sources since 1949. The data were presented this year during hearings before a subcommittee of the Joint Committee on Atomic Energy. The result of these hearings has been published in a special report by our subcommittee, which was headed by Representative Melvin Price. The statements of many experts from all of these sources may be summed up in the testimony of Dr. W. F. Libby of the Atomic Energy Commission. In his testimony Dr. Libby referred to the study conducted by the government and by the Library of Congress and the Joint Committee, and mentioned the President's awareness of the existence of a critical technical manpower shortage. Said Dr. Libby: "I should like to stress . . . that this country is in urgent need of more trained personnel in science and engineering. In our own field of atomic energy, the lack of scientific and technical personnel is considerably more serious than the lack of money or raw materials as a limiting factor for the future."

Following Dr. Libby came the statements of thirty-four manpower experts, and documents from ten to fifteen national organizations. All testify, first, to a critical shortage of brain power in our scientific and engineering programs, to mathematical and science deficiencies in our educational programs, and to the declining scientific and technical position of the United States in the world.

This question of manpower has two aspects. The first involves national survival which, of course, includes the states. The second aspect deals with the day-to-day operation of commerce within a state.

In discussing the first aspect, Dr. Libby said on September 7, at Oak Ridge, Tennessee: ". . . It is now incumbent upon you (a group of educators) to give our youth the most competent technical training you can so that our Democracy may have the materials, the tools and the knowledge it must have to survive."

This is not a problem recognized only by Dr. Libby. The Joint Committee on Atomic Energy made an exhaustive study of this fundamental problem during the 84th Congress, in which it demonstrated that the United States is falling behind in the education of young scientists and engineers. The study recognizes that there is a technical race on in the world for scientific leadership. This race involves the free world and the Union of Soviet Socialist Republics. A comparison of the graduating classes of engineers for 1954 of Great Britain,

the United States and the U.S.S.R., shows that Great Britain graduated 57 engineers per million of population; the United States graduated 136 engineers per million of population; and the U.S.S.R. graduated 280 engineers per million of population. In addition, Russia graduated 326 lower grade engineers per million of population. This has taken place in Russia during a period when engineering graduates were decreasing by more than 50 per cent in the United States. Again in the words of Dr. Libby: "There is no doubt that the technical race is on, but we must remember that the prize in any technical race will not necessarily go to those countries with the largest population. Only those countries with the best *systems* of education will win the prize." The responsibility for our system rests largely with our states. You must remember that.

THE PRICE OF SUCCESS

In an Interim Report dealing with this manpower shortage, Mr. Price noted that it is "important to recognize at the outset that these serious shortages are not a sign of failure, but an indication of startling success." A way of life has been created in which the demands for superior skills in every field have become so tremendous that growth and expansion have become constant elements of the normal pattern. A society has been created in which progress is not simply a matter of occasional spurts and short-term crises. Rapid progress has become a normal part of our national life. Skilled manpower to keep up with this steadily and rapidly advancing march of progress will be in demand for years to come. We are, in essence, engaged in a battle for brain power. The price of continuing success, the price of survival and prosperity, is an unceasing effort to develop our intellectual resources to the maximum possible. A sense of urgency is provided in this universal acceptance of the fact that a critical shortage exists by the reports of progress made by Russia. And even though the urgency and the crisis are recognized, the nature of the problem is not generally understood and the remedies frequently suggested tend to deal with the superficial and immediate problems rather than the more basic causes of the shortage.

In this respect they involve the states and they threaten, in the long run, to create a more serious crisis. This is because the shortage is too often treated for its symptoms rather than for its causes. But modern defense is total. It cannot be achieved in the medieval manner of putting up a few strong, scattered forts. It demands strength through the entire fabric of national life in the face of an unprecedented demand for more skill and adequate brains. Therefore, it would be tragic if—as the Joint Committee was warned—the United States is stampeded into short-sighted action. The committee was reminded of widespread forecasts following World War II that there would be an oversupply of engineers. The forecasts, by implication, encouraged high school guidance counsellors to steer young people into other vocations. These estimates, based only on the immediate short-range picture at that time, were not inaccurate; but they were tragically wrong in terms of the future.

Our committee set forth ten possible steps to meet the shortage, which Dr. Libby has said will approximate 2,000 scientists and engineers per year by 1961. But what are the causes for this shortage? And why do they exist? These are problems which eventually may be solved only by a new measure of cooperation between the state and federal governments. This is because there has been increasing pressure for the federal government to participate in the financing of schools—a field heretofore reserved to the states. A number of bills have been introduced into the Congress aimed at solving various educational problems of our scientific and engineering manpower shortage. I was the sponsor, along with Senator Clements of Kentucky, during this past session of Congress, of a bill which would have established a sizeable number of scholarships for each state for outstanding students—10,000 scholarships in the nation.

These scholarships might help in reducing the drop-out rate of our students as they climb the educational ladder. About 80 per cent of our high school graduates do not finish college, and only about 2 per cent of those mentally capable of obtaining Ph.D. degrees in any field do so. About one quarter of our high school graduates rating in the upper 20 per cent of their classes and having an I.Q. rating in excess of 145 do not enter college. They represent America's most wasted human resource. That group, and they number in the thousands, should provide the best hunting ground for talented scientific and engineering candidates. As a comment on the recommendations of the Joint Committee, let me quote one more paragraph from Dr. Libby:

"We must improve the teaching of science and mathematics in the high schools by providing more qualified teachers and better teaching aids, through consolidation of schools to permit more courses, and by other remedies. We must take steps to break the vicious circle which has practically reduced the 3 R's to 2 R's, a dismal finding of a recent study by the Educational Testing Service at Princeton, New Jersey. I quote their sorry conclusions as to the status of mathematics in American schools today: 'Future teachers pass through the elementary schools learning to detest mathematics. They drop it in high school as early as possible. They avoid it

(*Continued on page 257*)

Robert McKinney, who delivered the following address at the outset of the panel discussion on atomic energy at the Western Regional Conference of the Council of State Governments in September, is Editor and Publisher of the Santa Fe NEW MEXICAN. *He was Chairman of the national Citizens Panel on the Impact of the Peaceful Uses of Atomic Energy which reported recently to the Joint Congressional Committee on Atomic Energy. Mr. McKinney deals particularly in this paper with economic opportunities and problems of the Western states, but his observations relate to all of the states.*

Impact of the Peaceful Uses of Atomic Energy

By ROBERT MCKINNEY

I HAVE been asked, for this discussion, to outline the probable impact of the peaceful uses of atomic energy on the Western states and to make a few suggestions about the role of state governments in this field. That is a large order for a half-hour talk, so I shall just give a few brief examples in the fields of agriculture, industry, electric power and mining.

AGRICULTURE

If we were to take a poll of Western ranchers and farmers and ask them what agricultural development they would like to see above all others, I am sure they would be solidly for at least one thing: some really drought-resistant strains of crops and range grasses. Maybe the early map-makers were right when they labelled this part of the country the "Great American Desert." At any rate, our drought cycles are getting more and more serious, and we certainly are going to have to use everything we have in fighting them. Fortunately, we can take some comfort in the knowledge that atomic research can over the long run help us develop strains of crops and range grasses more drought-resistant than those we now have. There are two approaches:

First, there is tracer-isotope research. A tracer isotope is simply one form of an element—like phosphorus or nitrogen—which differs from the ordinary element in only one respect: it is radioactive, and it can be traced by a Geiger counter no matter where it goes or how it combines with other elements.

We mix tracers with a plant food, for instance, and we can almost literally watch that food minute by minute, day by day as it travels through the plant's system. We put a tracer in the water a plant drinks and we learn things we never knew before about how the plant makes use of that water.

For instance, it has always been commonly believed that most of the food consumed by a plant comes in through the roots. But tracer research has shown us that the foliage is an important entryway. Now, the leaf area of a twelve-year-old maple tree is equal to about a quarter of an acre; but if we could develop a tree with a more effective leaf area, we might have one that could make more efficient use of a given amount of water, or food. And the same might be true of crops and range grasses.

Or, even if we could not, or did not think it practical to develop more leaf area, at least we would know much more about how to take advantage of available water and fertilizer. In fact, through atomic research we already have learned much more about these things than we learned over decades of study in pre-atomic days.

The second approach is by irradiation.

When a plant is exposed to atomic radiation, its mutation rate is speeded up considerably. That is, through irradiation it is possible to produce in a year or two the same number of new plant varieties that it used to take about ten years, or more, to bring about.

Atomic researchers have already produced some very significant new plant strains. For instance, there is short-stalked corn. It provides a high yield; it is better adapted to mechanical harvesting than long-stalked corn; and it is less susceptible to wind damage, which means a lot here in the wind-swept West.

Rust-resistant oats have been developed by radiation. Peanuts have been developed that give a higher yield and are resistant to leaf spot; and barley has been produced with dense heads, tall and stiff straw and a higher yield of both grain and straw.

In other words, isotope research and irradiation can work hand in glove with Western farmers. Atomic tracers can show us what characteristics in a given plant are most to be desired, and what are the best methods of cultivating that plant. The uses of radiation in plant genetics can speed up the process of developing desired characteristics.

So it seems certain that, some day, we will have plant strains which can help us face future drought cycles with at least some hope that they will not have such disastrous effects on Western farmers and ranchers as at present.

INDUSTRY

Now for a few minutes let's consider general industrial uses of atomic energy. Because the field is so large and complex, I will use just one example, taken from the chemical industry.

One atomic application that has chemists particularly excited is the use of radiation as a catalyst in chemical reactions.

A catalytic agent, as you know, serves to start a chemical reaction. And chemists have been developing new catalytic actions, in order to produce new substances, for centuries.

Now they have a new catalytic tool, atomic radiation, which may revolutionize several important aspects of the science of chemistry—and with it perhaps a large segment of industry.

Take one example—one which could conceivably have a profound effect on industry in the West. You all know that some new automobiles have been built with plastic bodies. So far, these bodies are used only in a few specialized models in custom production. But plastic car bodies might some day compete with steel, if they could be mass-produced.

One of the reasons they cannot now be mass-produced has to do with the kind of catalyst used to cure the polyesters—that is, to give the formed plastics the strength and rigidity needed for a car body.

If you introduce a quick-acting chemical catalyst into a large system of polyesters, it will work too fast to produce a homogeneous product. That is, it will not get to the center of the mass quickly enough to make the center uniform with the outer portion. But if you use a slow-acting catalyst, a mass production line would have to be many miles long and would require too large a capital investment.

One of the characteristics of radiation as a catalyst, however, is that it can be employed homogeneously and externally. That is, you can irradiate a large batch of chemical from the outside, and the radiation will bring about the same reaction throughout the whole volume of the chemical.

So if polyesters could be cured in seconds simply by exposing them to radiation, you could turn out continuous sheets of the plastic by passing them through a radiation oven.

So far, nobody has developed a polyester that can be cured in seconds. But it is logical to expect that one may be developed. Think what it would mean to the oil industry in the West if atomic researchers could develop from our petroleum a plastic to compete with the steel of Northern blast furnaces for the automobile body market!

SCIENTIFIC MANPOWER

There we see an exciting potential. But now compare the actuality. Today in the whole United States there are only about fifty people with a bachelor of science degree or better engaged in research in the use of radiation in chemical reactions. Think about that figure for a moment. Fifty people—scattered in different parts of the country, working for different employers with no over-all coordination of their efforts—exploring a field that has a potential of billions upon billions of dollars! There is a real example of our scientific manpower shortage.

The same contrast between potential and actuality exists in the agricultural field. It is impossible to give any but the roughest estimate of the number of trained people working in agricultural atomic research, but certainly they are numbered in the hundreds when they should be counted in the thousands. Compare their numbers with the mountain of work that is waiting to be done, and you have some idea of the size of the challenge that atomic energy holds out to us.

We are very fortunate to have heard the thought-provoking address yesterday on educational problems arising from the country's shortages in scientific manpower by one of the men best qualified to discuss the subject, Senator Clinton P. Anderson, distinguished Chairman of the Joint Congressional Committee on Atomic Energy.

ATOMIC POWER

The achievement of low-cost atomic power will perhaps mean more to the West than to any other section of the United States. The phenomenal growth of many parts of the West has been based on cheap hydroelectric power. Substantial growth in other parts of the West has been based on low-cost thermal power, generated by burning natural gas.

Only the more marginal water-power sites in the West remain undeveloped, however. Most of the natural gas that is now sold at low prices to electric utilities will eventually be transferred to higher-paying domestic, commercial and industrial users. Oil is not a significant power source, only 2 per cent of domestic petroleum production being used for generating electricity. True, the West has some of

the world's largest coal reserves. They are relatively undeveloped, however, are more remote from industrial centers than in the East, and are not susceptible to cheap water transportation.

In the United States as a whole, the demand for electric power will increase between three and six times by 1980. Because the West is growing more rapidly than other parts of the country, the increase in demand for electric power out here will be even greater. But there will be a ceiling on our growth—perhaps a low ceiling—unless we can provide these new industries and these new settlers with unrestricted supplies of low-cost electric current. And I hope I have shown that we cannot depend entirely on fossil fuels or water power to supply all of this current.

1965 has usually been accepted as the year in which we would expect to achieve economic nuclear power in the United States—that is, power competitive with electricity generated from conventional fuels. My own feeling, my own hunch, however, is that our atomic scientists are far abler and harder working than any of us give them credit for, and that they will surprise us by achieving economic nuclear power considerably sooner than 1965.

Perhaps when we start operating the reactors which are now under construction or design, we will find that they are generating electric power at actual costs of around 10 mills a kilowatt hour. Bringing these costs down further—perhaps to six or seven mills a kilowatt hour—would involve only the relatively simple task of building into the next plants those engineering improvements which normally flow from practical operating experience.

Six or seven mill atomic power would be competitive with thermal power today in many parts of the West. If we can move up the date of six or seven mill power by several years, then we should have reason to hope that we can also move up the date when really cheap nuclear power can be freely available. When this happens—and you will note I say "when" not "if"—the nation and the world will realize how much we all owe to those now working on making this come about. And when this happens, all parts of the West can look forward to the same growth and prosperity which has already taken place around our low-cost hydroelectric power complexes.

URANIUM MINING

This brings us to the fuels used in atomic power plants, the most important of which is, at present, uranium. In the West we have made a major industry of uranium mining; and because we have, the United States is now the world's largest uranium producer.

Of course, practically the only present market for uranium is for weapons. And, of course, in the long run, no business is sound which depends on one use or one customer.

Our Citizens Panel on the Impact of the Peaceful Uses of Atomic Energy found that, if military requirements continue at projected levels, and if present sources of uranium ore operating at planned levels continue to be available, there will still be adequate uranium supplies for a rapidly growing atomic power industry. And by rapidly growing, I mean a U. S. atomic power generating capability in 1980 larger than the entire electric capacity of the country in 1956.

The big question is, what happens to the uranium mining industry here in the West, if military requirements fall off sooner and more rapidly than the civilian atomic power industry develops? Such an event would be a body blow to the economy of the West. Therefore, the West has impelling reason to get behind the program to achieve safe, cheap civilian atomic electric power.

RADIATION HAZARDS

You will notice I used the word "safe," as well as the word "cheap." I foresee the day when nuclear power plants are as normal sights on the American scene as conventional power plants are now. But, before that can come to pass, we must achieve effective control not only over costs but also over radiation hazards.

For sake of an example, let's say that an atomic power plant is being planned here for Santa Fe. We have the money; we have the blueprints for the plant; we have picked a location. In the wind pattern from our site is a residential section, farther off are farms and ranches. What will the people of the community think about the proposed nuclear reactor?

They have heard lots about radiation hazards: for example, they have heard that—what with the natural background radiation from cosmic rays, with the radioactive materials naturally around us on the earth, and with the x-rays we are usually exposed to in the course of medical treatment—by the time we are 30 years old we have received an accumulated dose of radiation averaging nine roentgens. Our neighbors have heard, further, that geneticists presently think that people should not accumulate a total radiation dose of more than ten roentgens before age 30. Our neighbors fear that atomic reactors can release radiation and radioactive particles into the environment not only in case of accident, but possibly even without accident. They conclude that there isn't any margin of safety for an atomic power plant in their neighborhood. They don't want to be guinea pigs in new genetic experiments; they don't want their grandchildren to turn out to be freaks or genetic sports. "Why ask for trouble? Why take a chance?" they say.

But we also find that, while some of our friends might be objecting to our building a prototype atomic power plant here in Santa Fe, they might at the same time be doing several seemingly inconsistent things: they might be denouncing the government or private industry because the nation's program for the development of economic atomic power seems to be lagging; they might be demanding more and cheaper electric power; they might be complaining about the shortage of nuclear scientists, engineers and technicians. They might be saying we are losing our world atomic leadership to other nations.

Many men in the atomic field can give seemingly convincing answers to any one of these questions. But how to make an effective answer to the field problem—that is, to all the questions at once—is the $64,000 question.

So perhaps we should take two or three minutes here to talk about some of the actual facts of radiation. In addition to its beneficial uses, some of which I have just mentioned, radiation can injure human tissue. It can, in doses beyond tolerance levels, change body processes and lead to deterioration of the body. In large doses, radiation can be lethal. Radiation particles allowed to enter the human body may be deposited there and, if present in sufficient quantity, can produce injury and even eventual death.

The basic fact about radiation is that it cannot be seen, felt, tasted or detected in any way by humans without the assistance of special instruments. Thus it is to many people an unknown, and it is the unknown which gives rise to fear and misunderstanding.

At the hands of those who have had experience with radiation in the atomic energy program, radiation and radioactive materials command respect. For the uninitiated layman the first requirement is to learn what radiation is and what can be done to protect against it.

Improper shielding of sources of radiation; rupture of containers in which radioactive substances are being used, shipped, or stored; or careless handling—these are a few of the many ways radiation accidents can occur. Inattention to proper dose levels by those working with or near radiation may have more insidious results. A nuclear reactor's getting out of control may, under special conditions, cause widespread injury to people and loss of use of property because of radioactive contamination. These events should not occur if design and operating standards are properly established and effectively enforced. Yet, men make mistakes and accidents happen.

Many procedures for the safe handling of radioactive materials have been worked out. These range from the design of simple handling equipment—such as lightweight containers and shipping cartons for small diagnostic and therapeutic amounts of radioisotopes—to the complex, almost human, remote control devices for working with more dangerous quantities. Research has resulted in a firmer basis for limits on radiation dosage levels. Detection and measurement instruments have been developed to assure safe working conditions.

The known hazards involved in the handling of radiation or radioactive materials in research, in medical diagnosis and therapy, and in industry are apparently measurable, controllable, and in other ways comparable to other hazardous industrial activities.

Much research still remains to be done, especially on the long-term effects of radiation. While the Atomic Energy Commission and its contractors appear to have a remarkably outstanding safety record in dealing with, or in using radiation and radioisotopes, expanding the peaceful uses of atomic energy increases the proportion of the population that could be exposed. Tolerance doses satisfactory when small fractions of the population were exposed must, therefore, be reexamined continuously.

At the present time the most significant protection against atomic hazards is provided by controls exercised by the commission. No one can possess or use radioactive materials or special nuclear materials except under commission license. Demonstrated ability to maintain approved safety standards is a condition to getting such a license.

Before an atomic power reactor can be built in any community in the country, it must have a construction license from the Atomic Energy Commission. Most of those in science and industry connected with the atomic energy program have confidence in the technical and operating people of the Atomic Energy Commission, and they feel that no plant which the commission licenses for construction will be a hazard to the community in which it is located.

But there is still another precaution. After the plant has been built, it must stand there idle and cannot start running until and unless it gets another license from the Atomic Energy Commission—an operating license. And I think we can feel sure that the commission will grant no operating licenses until the reactors and the operating staff have passed the most rigid examinations by the best qualified authorities.

Construction and operation of atomic power demonstration plants is absolutely necessary in order for us to gain practical operating experience not only with respect to safety, but also with respect to many other factors. I am convinced that these prototype plants can be built so that they are safe. In fact, it is probable such over-cautious safety standards will be applied to these first plants—because

of our lack of adequate knowledge—that their construction and operating costs will be abnormally high.

Scientists who are intimately involved with the present program are not worried about the few reactors now contemplated for construction. They are sure that these reactors can be built and operated safely—at a cost. What these biologists and geneticists, who are devoting their lives to the study of radiation, fear is what might happen in case hundreds of atomic power plants spring up all over the world before reactor designs, operating methods, personnel training, and waste disposal techniques have been perfected.

At this point—and I want to emphasize that it is not until we reach this point—the biologists and geneticists start having divided opinions. Some fear in the event atomic power spreads extensively before adequate controls for radiological safety to the general public have been worked out, that accidents could produce contaminated fall-out which would make the weapons testing program look like peanuts.

On the other hand, there are also eminent scientists who feel that the future rate of development of atomic energy may be slowed down more by the ignorance of our biologists and geneticists than speeded up by the genius of our physicists and engineers.

With this background I believe we can now sum up the radiation problem in a few words:

It is imperative that we stake out the technological resource of atomic power at high priority, and that our program for achieving economic nuclear power does not lag. Certainly, to accomplish this, prototype reactors must be built somewhere. Certainly, neither those who work in these reactors nor the people who live in their neighborhood must be allowed to suffer any undue risk, either from sudden accident or from accumulated radiation exposure. Certainly we cannot tell definitively what radiation dosages are acceptable until we have performed a great deal more research, and have built up a large and effective body of reactor operating experience.

For this research, we need in the nuclear field many more nuclear physicists, chemists, mathematicians, engineers, statisticians, biologists, geneticists, ecologists, technicians, journeymen and so forth than we have now—and many of them will have to work intimately with this radiation which the public fears so.

In order to build up the body of operating experience, we will need to have more than a few reactors of each of the various major types and sizes actually operating under a wide range of conditions.

And, certainly, accidents are more likely to happen in these early stages, before plant designs and operating techniques shake down.

This brings us to the role of our state governments in the development of the peaceful uses of atomic energy.

THE ROLE OF STATE GOVERNMENTS

In any discussion of the role of state governments in atomic energy, my experience has been that the conclusion usually arrived at—no matter who takes part—is that the role of the state and local governments is limited and passive, mainly concerned with four activities. These four activities are: (1) establishment of safety procedures to guard against hazards of atomic radiation; (2) indoctrination of the public on atomic energy in general; (3) formal education in the training of scientists, engineering and technical personnel, and (4) establishment of liaison between state and local governments and the United States Atomic Energy Commission.

When I describe the attitude toward these four functions as passive, I mean that state governments do not now feel that they are integral parts of the country's atomic energy program; they do not feel called upon to go beyond these limited "housekeeping" functions.

I shall conclude these remarks with a few words about a different and, I believe, even more important role for state governments. The reason the states should take a real and active part in the country's atomic energy program stems from the urgency attached to the development of all the peaceful uses of atomic energy. Only on state and local levels can this urgency be brought home, in its full meaning, to the people of America.

THE PROBLEM OF URGENCY

What is this urgency? How great is it?

I know you will agree that the magnitude of the urgency is second only to our national defense. If you analyze the problem carefully, the peaceful uses of atomic energy are even part of our national defense.

The urgency stems from factors such as these: First, if the American economy is to continue dynamic, if it is to keep growing at the present rate, we must explore and stake out at high priority all of our resources. I hope that I have shown that this is particularly true for the Western states. The resource with the greatest potential, to my mind, is atomic energy, which has already become a world symbol of accomplishment and leadership.

Second, it is only by using all devices at all levels to speed atomic progress that we can inspire the kind of thinking, the kind of activity so necessary in a highly industrialized and technologically based country, such as ours.

(*Continued on page 259*)

Among problems that will press upon state administrations and legislatures during the coming sessions, none promises to be more insistent than education. STATE GOVERNMENT *in September summarized certain of the key factors that affect the early future of the public elementary and secondary schools. The following pages present a similar summary for higher education.*

The States and Higher Education

AMERICAN COLLEGES and universities, whether public or private, have common objectives and aspirations. Their major purposes are to preserve and transmit the intellectual heritage of Western civilization, to promote the use of existing knowledge, and to advance the frontiers of knowledge through research and understanding.

Essentially, there is no difference between publicly and privately supported institutions in their devotion to these goals. In serving them, however, the two types have filled somewhat different roles—to the advantage of the vitality of the system. The special role of state-supported colleges and universities, and certain of the problems they present to state governments, are surveyed in this paper.

THE ROLE OF STATE INSTITUTIONS

State-supported institutions—which provide most of the publicly financed higher education in America—have two special characteristics.

First, they endeavor to make higher education available at low cost to the individual. They do not provide it free. Moreover, students who go to state universities or colleges away from home must pay room and board charges similar to those paid at private schools. However, tuition charges at the state institutions usually are much lower.

The state schools keep these charges low by reason of the income the states provide for them. This helps toward making educational opportunity available to youth of talent regardless of economic condition or social background. Public higher education, accordingly, has helped maintain a steady flow of able young people into the professions and into other exacting occupations. It has helped to advance our free society and has contributed to its material and spiritual well-being.

Education at low cost to the student, our people agree, must not be a low grade education. If educational opportunity is to be adequate, the state-supported university or college must offer quality. An appropriate level of state support makes it possible to provide the quality required.

The second special characteristic often associated with state colleges and universities is their function as a "safety valve" in the higher educational system. Many private and some public institutions of high quality carefully restrict their admission to young people who clearly reveal an aptitude for college work. On the other hand, many public and some private institutions, which may be of equally high quality, admit all high school graduates. Institutions with these less rigorous admission standards give students who may not have done well in high school a second chance to demonstrate their capacity and interest in college work.

This function may be performed by either private or public colleges and universities. For various reasons, public institutions are more likely to assume it. It is not necessary, however, for every state college or university to provide this opportunity, nor do all do so. One state institution may impose higher standards of admission and exclude uncertain educational risks; another state-supported school then usually fills the safety valve role.

It is not always economical or feasible to have a policy of unlimited admissions. Its cost to the state and to the individual may be unduly high. But within the over-all system there is a need for some institutions that assume this function.

RISING ENROLLMENTS

College and university enrollment has risen steadily over the years. It more than doubled in each of the twenty-year periods from 1900 to 1920 and from 1920 to 1940. After decreasing slightly during World War II, it reached a peak in 1950, when thousands of veterans attended school. There was a small decrease the following year, but the trend now is upward; enrollment in 1955 is estimated to have been at an all-time high of 2,740,000. The following figures indicate the trend of the last decade:

RESIDENT STUDENT ENROLLMENT IN HIGHER EDUCATION

Year	*Number*
1945–46	1,676,851
1947–48	2,616,262
1949–50	2,659,021
1951–52	2,301,884
1953–54	2,478,000
1954–55	2,740,000

A comparison of fall enrollments in 1954 with those in 1955 demonstrates the rapid rate at which enrollment is increasing. For the nation fall enrollment in 1955 was 8.8 per cent higher than in 1954. Variations, however, are wide among the states. In one state the figure was up 23.2 per cent, while in another it rose only 1.2 per cent.

Increases in enrollments are occurring because college age population is rising and, especially, because a larger percentage of this group, 18 through 21, is going to college. The percentage increased from 15.32 in 1939–40 to 21.92 in 1951–52, the last year for which complete figures are available, and it is estimated that from 25 to 30 per cent of the college age group now are enrolled in school.

Forecasts of future enrollment are based on population data and estimates of the proportion of college age youth that will attend college. Since those who will comprise the 18-through-21 age group in the early 1970's are born already, rather exact forecasts can be made about its size. By 1973, for the nation as a whole, the number of young people in these age brackets will be 75 per cent greater than in 1955. In some states the increase will be larger, in others smaller, but everywhere higher education faces expansion.

Educators and others differ considerably in their forecasts as to the percentage that will attend school. Some believe it will remain at approximately its present level. Others suggest that it will rise in the next fifteen years to 40 and perhaps even 50 per cent. Assuming that there will be only a slight increase in the percentage of the college age group attending school, the United States Office of Education estimates that resident enrollment in 1965 will be 3,953,000. The Fund for the Advancement of Education bases its forecast on the assumption that the percentage attending school will continue to increase at a rate of 1 per cent per year, following the pattern established over the last twenty years. On this basis, it assumes that by 1965 approximately 40 per cent of the college age population will be enrolled, bringing total enrollment to about 4,488,000. If the percentage continued to increase at the same rate, enrollment by 1973 would be 7,231,000.

Accurate predictions as to how much of this increased enrollment will be absorbed by public institutions and how much by private are impossible. Until recently, enrollment was divided almost equally between the two types. In the last four years, however, it has increased more rapidly in public than in private schools. In part, this trend reflects greatly increased enrollments in junior colleges, most of which are publicly controlled. But even in four-year, degree-granting institutions, the percentage attending private schools has decreased somewhat in recent years. In all types of institutions, 56 per cent of the total fall enrollment in 1955 was in publicly controlled schools.

If private institutions are to continue to enroll a percentage of the student body comparable to their past share, they will need to expand by 50 per cent or more in the next ten to fifteen years. Some of them may not wish to expand their enrollments to this extent. Others may find it financially impossible to do so. It seems likely, therefore, that public institutions will enroll an increasing percentage of the college students.

WHO SHOULD ATTEND?

How many young people should go to college? Here, there is much disagreement. The present day definitions of college ability embrace from one-quarter to one-third of all young people. Some authorities maintain that this definition of ability must be upheld rigorously lest the quality of all higher education programs suffer. Others believe that the present standard is too high and that a more suitable one would include up to as many as half of all our young people.

Even by present tests of ability, about one-half of the young people with sufficient talents do not go to college. At the same time it is agreed that many students attending college should not be there. Some state colleges and universities graduate only one-third to two-fifths of those who enter. There is, then, a dual need: to provide other acceptable activities for young people unable to benefit from a college education and to encourage more youth of talent to attend school.

In recognition that economic factors account for the failure of many able students to attend, there is considerable current interest in expansion of scholarship programs. Businesses and private foundations are cooperating in a large scale national scholarship program. Federal scholarships have been proposed. Many states are considering expanding their activities in this area. In the past state scholarships have been restricted to public institutions, but some states now are providing scholarships that may be used at any acceptable college or university.

Warnings, meantime, have increased that we are not preparing a sufficient number of students in some fields and that these shortages may become worse. The demand for technically trained personnel in scientific fields exceeds the supply; it can be expected to rise as the needs of industry and government grow. There is a shortage of qualified persons in the various branches of engineering and, again, the demand for them is likely to increase. Shortages of teachers, physicians, nurses and dentists indicate a need to attract more students to these professions. Many authorities likewise have underlined that while providing for the specialized pro-

fessions a free society cannot afford to neglect higher education in the humanities, the arts and the broad social sciences.

COLLEGE TEACHER SUPPLY

The need to educate more individuals for positions as college teachers requires special attention. The instructional staff in colleges and universities today is estimated at about 200,000. To meet annual replacement requirements and to provide additional teachers for larger enrollments, various authorities estimate that the colleges and universities will need an average of more than 19,000 new teachers during each of the next ten years. The average during the latter half of the decade will be higher than during the first half.

On the basis of present trends, the new supply—if measured by the number of graduates with doctoral degrees—will average only 7,400 each year during the next decade. But by no means all graduates with doctoral degrees will become teachers in institutions of higher education. In the past about 60 per cent of them have become college teachers, but increasing competition from industry and government probably will reduce that percentage substantially. On the other hand, only about 40 per cent of college teachers in the 1940's had a doctoral degree. Unless the number of graduates with doctoral degrees increases considerably, the need for additional college teachers can be met only by lowering the academic qualifications for these positions.

STATE EXPENDITURES

Educational finance at the college and university level is a complex subject in which comparisons among institutions or states call for great caution. It involves diverse sources of revenue: state, federal and local governmental appropriations, tuition and other student fees, private gifts and endowment earnings. Expenditures include amounts for education and general purposes, auxiliary enterprises, other noneducational activities and capital outlay—an array of factors that are beyond the scope of this summary. However, certain facts and problems stand out.

Higher education is almost exclusively a state responsibility as far as government support is concerned. Federal funds available are small, and they are earmarked for agricultural extension and research and for scientific and medical research. Municipal governments maintain only a limited number of higher educational institutions other than junior colleges.

Last year, total state expenditures for higher education were $1,467,669,000.[1] This included $914,958,000 for general operation, $260,401,000 for commercial activities (auxiliary enterprises such as dormitories, cafeterias, athletics and other student enterprises), and $292,310,000 for capital outlay.[2] The total is almost 11 per cent above the comparable figure for 1954.

State expenditures for higher education in 1955 were 8.5 per cent of total state general expenditures. This ratio varied from a high of 17.2 per cent in one state to a low of 2.5 per cent in another. The comparable over-all ratio in 1954 was 8.4 per cent, in 1950 9.0 per cent, and in 1946 7.6 per cent.

Per capita expenditures of states for their higher educational institutions in 1955 averaged $9.15, with a variation from $21.67 in one state to $2.64 in another. In 1954 the average per capita expenditure was $8.41, and in 1952 $7.74.

These figures indicate broadly the level of costs to state governments, but they do not present the complete picture, as the institutions obtain appreciable amounts from sources other than state appropriations.

THE EXPENDITURE OUTLOOK

Clearly, state expenditures for higher education will have to increase to meet the needs resulting from growing enrollments. Additional faculty will be necessary at many institutions if student-faculty ratios are to remain at anything like their present levels. These ratios vary among institutions; they may be 12 to 1, 15 to 1, or even 20 to 1. Although there is no agreement on the exact proportion that is best for instructional purposes, the ratio obviously cannot be increased indefinitely without reducing the quality of education.

Overhead also increases as enrollments rise and new buildings are added. More funds will be necessary for plant operation, maintenance, educational supplies and other purposes, including some increase in administrative staff.

One of the most important needs is for funds to increase faculty salaries. With the growing shortage of qualified talent, and with increasing competition from industry for scientists and others, competent instructional staffs can be preserved and new instructors recruited only if salaries are improved. Some institutions may request and need at least a 50 per cent improvement in levels of instructional compensation during the next five years.

Additional expenditures will be necessary for the so-called "high cost" programs. Examples include medicine and graduate programs at the Ph.D. level. As these programs grow in enrollment, as the quality of instruction improves, and as new research equipment is acquired, costs mount. The expansion

[1] The statistics cited are as reported by the United States Bureau of the Census.

[2] The Census Bureau reports that state revenues in 1955 from commercial activities of institutions of higher education were $289,493,000 and that revenues from other activities of the institutions were $175,100,000.

of programs to meet the needs for engineers also will require additional funds. And improving the education of school teachers, traditionally a low cost area of instruction—will add to expenditures.

Economy measures at individual institutions may well be possible. Experiments are proceeding at a few schools to devise instructional methods by which individual faculty members can reach more students effectively. Research of this type may grow. Some savings also can be effected through greater cooperation among institutions of a single state.

Further development of regional educational programs may be another means of economy. Cooperation among institutions in neighboring states may make it possible to offer high quality programs in specialized fields at lower costs than are possible on an individual state basis. Several years' experience under the Southern Regional Education Compact has demonstrated the great value of this approach. More recently the Western States have established similar arrangements through the Western Interstate Compact for Higher Education. Within the last year the New England Regional Education Compact has taken effect.

Most state-supported colleges and universities need additional buildings. To a considerable degree, present needs reflect past deficiencies, not requirements for the future. Enrollments grew during the 1930's, while building tended to lag. The war years interrupted all building. State surpluses after 1945 met part of the building cost for the great postwar influx of college students. The federal government helped by providing temporary facilities, many of which are still in use. But now enrollments again are increasing, placing new demands of physical plants.

Most states are attempting to meet these needs by appropriations from general funds. Others have issued bonds, part of the proceeds of which go for college and university buildings. A number of state institutions have sold revenue bonds to finance the construction of dormitories and other self-liquidating projects. A possible disadvantage of this method is that using it for more and more facilities would cause debt service charges to rise, with a resulting increase in rental costs to students.

Certain economies may be possible in plant utilization. Some institutions already have sought to improve the scheduling of classes to make more effective use of buildings. Some specialized facilities, however, cannot always be regarded in terms of class hours. Buildings may be needed even though they are used fully only a few hours daily.

A VARIETY OF SCHOOLS

Almost all states support several types of higher educational institutions. State universities were the first to be established. After 1862 about one-third of the states created separate state colleges of agriculture and mechanical arts. Many of these now are full-fledged, second state universities. As the public school movement gained momentum, most states created normal schools. Later these became teachers' colleges and, more recently, many have in effect become universities. For geographic reasons, some states created additional state universities or established branches of existing schools. Some today also support such separate institutions as schools of mines, military and technological institutes.

In 1951 more than 350 institutions of higher education were supported by state funds and were under state control. They included approximately sixty universities, seventy-five liberal arts colleges, 170 teachers' colleges, twenty-five technological schools, and certain other types.

In addition to these institutions, two other types, heretofore locally controlled and supported, are likely to become state responsibilities. Municipal universities may find it impossible to obtain adequate support from local governments, and the latter may seek to turn their operation over to the states. The second additional type is the junior or community college. Usually such colleges have been established by local school districts, but many of them today receive some state financial support. States make grants for this purpose in part because they believe that junior colleges are educating many students who otherwise would seek admission to state colleges or universities.

It seems likely that the junior college movement is on the point of great expansion. Under pressure of increased enrollment, state colleges and universities may seek increasingly to control their campus enrollments through the use of admissions standards. To the extent that this is done, the "safety valve" function of state colleges may have to be assumed primarily by community colleges under state support. In addition, junior colleges may provide an alternative to some expansion of existing state college facilities, or to the establishment of branches in urban centers not now adequately served by state schools.

ORGANIZATION

The present and prospective structure of state-supported higher education requires close cooperation and coordination among the individual educational units. Collaboration is necessary to insure that expensive programs of instruction and research are not duplicated, that unhealthy salary and other rivalries do not arise, that geographic coverage is adequate, and the full system of higher education achieves the needed objectives.

This coordination may be achieved in various ways: by voluntary cooperation; by placing all institutions under one board or under a single execu-

tive officer; by placing all institutions under a single agency for budgeting purposes. All of these methods have been tried. None has been entirely successful, but the need for coordination remains. Governors and state legislatures are continuing their efforts to achieve it.

THE ROLE OF STATE GOVERNMENT

The relationships between state colleges and universities on the one hand and Governors, legislatures and executive departments and agencies on the other continue to cause difficulties in some states. Problems are especially troublesome in such matters as budgeting, accounting, purchasing and personnel. The major issue in these fields is the extent and the types of controls that state officials should exercise.

College and university officials emphasize that education differs markedly from other functions of state government. They suggest that controls exercised by state agencies may hamper the schools in achieving their basic objectives. They note that many state higher educational institutions have competent officers in finance, purchasing and personnel, and that such schools are large enough to handle these matters efficiently. They assert that their institutions are responsible to the public through their governing boards, and that they should not be held accountable also to state administrative officials. Educational officials accordingly are likely to oppose grants of power over their institutions to state agencies. Many institutions operate under constitutional provisions that support and protect this position of autonomy.

State officials acknowledge the unique characteristics of educational institutions but also point to their public status and the fact that they are supported by state funds. They believe that Governors and legislatures have a responsibility to insure that these funds are expended in accordance with budgetary and accounting practices that safeguard the public interest. They may note that purchasing for educational institutions has much in common with purchasing for other state agencies, and hold that much of it can be done more efficiently and economically through the state purchasing office. Nonacademic personnel at colleges and universities perform functions similar to those of employees in other state agencies. Many state officials feel that these employees should be under the supervision of the state personnel agency.

Officers of educational institutions and state officials see such questions from different points of view. The former, directly concerned about operations of their institutions and the quality of their educational programs, believe they can fulfill their objectives more effectively if unhampered by state controls or supervision. The latter, concerned about the general conduct of state government and the efficiency and accountability of its operation, believe that their responsibility to the public can best be fulfilled by regular, public review of administrative aspects of state colleges and universities.

To the extent that there is a trend in this field, it is toward the exercise of such controls as these by state agencies. As expenditures for higher education increase, additional demands for legislative and executive review are certain to arise. The view has been growing that it would help to alleviate future difficulties if state college and university officials recognized more fully that their institutions are a part of state government and, therefore, subject to supervision in certain administrative and financial areas. Likewise, various observers have held it would be helpful if state officials recognized more fully than is always the case the special nature of these institutions and therefore did not attempt to force them to conform to exactly the same financial, purchasing and personnel practices that govern other state agencies.

Whatever may be the practices and shades of emphasis in those matters henceforth, it is agreed that higher education will require from state governments more thought as to objectives, more planning in providing for the goals, and more funds for expansion. No aspect of our national life outweighs higher education in its bearing on our future security, our economic advance and our free institutions. And no other level of government holds so large a share of responsibility for meeting the need as now rests on the governments of the states.

The Atom: Whose Business?

(*Continued from page 247*)

in teachers colleges because it is not required. They return to the elementary school to teach a new generation to detest it.'"

A BALANCED PROGRAM NEEDED

When I began to prepare my remarks for you today, I visualized a talk dealing at some length with sanitation and safety problems, and thought I would spell out several proposals to meet them. Instead, I have talked for the most part about the immediate impact of the change wrought by the 1954 Atomic Energy Act upon the peaceful program. I did this because I found as I studied the subject that of more immediate concern might be the removal of bottlenecks created by conflicts in state and national jurisdictions, and the shortage of manpower. If they are not more pressing than the sanitation and safety problems, they must be accomplished simultaneously. Frankly, I do not

see how the sanitation and safety problems can be solved until we meet the manpower shortage and acquire the experts to do the job!

All of our recommendations and conclusions lead back to the basic fact that there is no single or final solution to the shortage of skilled manpower, and that all efforts—federal, state, and private—will be required if we are to make progress. As the shortage of scientific and engineering manpower is only part of a larger national problem involving the need for competent, trained people in all fields of endeavor, our main objective should be the development of all our intellectual resources.

The greatest need at the present time is for a vigorous and coherent national policy to provide guidance for all participants, government and private, in a coordinated program of remedial action. In framing such a program it is important to bear in mind that present shortages of manpower in this country are a symbol of success, not of failure; that inherent in our constant growth and expansion are increasing demands for skilled persons of all kinds —demands which may never be completely met. This is not a crisis to be deplored. It is an unprecedented achievement and eloquent testimony to the success of a social experiment which, when this Republic was founded, was only a dream and an ideal.

Now that so much of the dream has come true, the continued approach to the ideal can only be maintained by the full development and the wise use of all the brainpower of all the men and women who are part of the experiment. This may be the greatest problem of the states in the days that lie ahead.

Our Great Task

(Continued from page 240)

sound and enduring moral and spiritual values.

Now, about the time a young American lad goes to high school, he begins to discover that great Freedoms often carry with them greater responsibilities. As he does, he faces the problem of understanding the relationship between a citizen, his family, his community and his country.

But sometimes his first inclination is one of self-interest. As he encounters the demands of citizenship, he wants to know: "What's in it for me? How do I come out?"

At this point, he needs a straight answer. People like you in this audience can give him that answer. His teachers, municipal and state leaders, and fellow citizens can give him the answer. They can give him a "Bill of Responsibilities" to go along with his "Bill of Rights." They can advise him that our forefathers envisioned and founded a nation in which one's self-interest and one's inherent responsibilities are closely related to each other and to the way of life which this nation supports.

MILITARY SERVICE

Then once the young person enters military service, it is up to military leaders like myself to carry on with this groundwork. This we can do. We can do our part to help fill the gaps that we know exist today.

Today there are nearly three million men and women in the Armed Forces—and most of them are young. Nearly 70 per cent of them are less than 26 years old—the over-all average age is slightly under 23.

Without question, these young soldiers, sailors, airmen and marines are the heart and soul of our combat forces. The true worth of all the fine mechanical and electronic equipment with which we defend our country depends upon their skill, courage and convictions.

Next year, as this year, more men and women will be graduated from the Armed Forces and returned to civil life, than will be graduated from all the colleges and universities in the country put together.

The Joint Chiefs of Staff are as much interested in the kind of citizen the serviceman is when he leaves the Armed Forces as we are with his training while in uniform. We want to do everything possible to see that he comes out of the Service strengthened in his dedication to our American way of life.

In the Service, we will add to his citizenship training. We will give him realistic as well as idealistic motivation in our Code of Conduct for the Armed Forces. We will show him that full and loyal support of the Code is to the best interests of his country, his comrades, and himself. We will teach him that his security is the nation's security—and that the nation's strength relies on his strength, both while he is in the Service and after he returns to civil life.

CONCLUDING REMARKS

My own hopes for our young men and women are purposely high and idealistic. My aim is to have them display to the world top-level exemplary conduct. My target is long-term security. But my demands are not unrealistic, for they are based on the history of the rise and fall of nations. The greatest security for any nation lies, as it always has, in the hearts and minds of the people.

But I would emphasize that this is a double-barreled proposition. When a man enters the Service, it is generally too late to teach him right from wrong. The skills we teach in the Service can only

pyramid on the moral character and basic foundations already built in the home and classroom before he enters military service.

Ladies and Gentlemen: You and I can, I believe, concentrate more effort on strengthening the moral and spiritual character of the individual. We can help each other in the battle for Freedom by rendering this service to the future of our country.

Impact of Peaceful Atomic Development

(*Continued from page 252*)

And third, so much good can come from making the peaceful uses available to all people, particularly to those abroad who so desperately need these benefits. It is a basic American principle to do everything we can to help those in need, and to help them help themselves. I believe that it is this humanitarian principle, not just the abstract motivation of staying ahead of the Russians, which makes it necessary for us to move ahead in atomic energy as fast as we can.

The actions of our state governments must stem from this definition of urgency. Your individual state's programs will much better serve your state's own interests if they take in these broader objectives. In moving forward in this way, your states can become integral parts of the American atomic energy program. You can, by this approach, make significant contributions to bringing the peaceful uses of atomic energy to early realization for the benefit of all mankind, including your own citizens.

I think there are other active steps which the states must take to speed atomic development. The states should arrive at uniform regulations governing the use of radioisotopes and radiation. You should cooperatively press forward research programs, to determine the kind of regulations needed to assure safety without stifling atomic developments and their use in industry, medicine, agriculture, food preservation and electric power. You should re-examine your insurance laws, carefully, to ascertain whether changes can reasonably be made to help remove the so-called insurance "road block" to atomic power development.

Your state public utility commissions, through regulation and rate structure, have direct influence on how quickly the utility systems of your states bring the lowest cost energy to your people. Therefore, you can cause the whole domestic atomic power demonstration program to lag or to move forward rapidly. You can do more to accelerate the program than can billions of present and continuing federal subsidy. It is the obligation of the states to see that utility systems do not drag their feet in atomic development. The energy industries of the forty-eight states should be handled no differently from any other industries in regard to rate and tax concessions for research and development.

I believe that this skeleton outline for a reappraisal of the atomic energy activities of the several states applies equally to those states which have uranium, atomic industries, research laboratories, or federal atomic installations, and those which have not. To accomplish the objectives I have described, your responsibilities are the same.

When atomic energy comes into its own, it will bring with it equal levels of prosperity without regard to geography or natural resources.

A BI-PARTISAN ATOMIC POLICY

Ever since the completion of the report of our Citizens Panel on the Impact of the Peaceful Uses of Atomic Energy, I have been trying to do all I can to bring about a bi-partisan national atomic policy. And when I say a national policy, I mean one for all the forty-eight states, singly and collectively.

In one paragraph, my idea of a Bi-Partisan Atomic Policy is this:

The speed with which the United States acts to bring benefits of the peaceful uses of atomic energy to all peoples will hasten the achievement of lasting peace through helping to eliminate some of the causes of war. Therefore, we must move forward—on a priority second only to our national defense—in applying atomic techniques to the problems that face the free world, especially in the fields of medicine, agriculture and electric power. We must embark forthwith on a program generally directed toward these objectives, and particularly toward demonstrating by specific types of plants in specific places the present economic feasibility of atomic power in energy-short and underdeveloped regions of the world. We must hasten to apply the experience thus gained to bringing down the cost of power to levels on which the United States and other free nations can build economic strength, prosperity, and security.

Suggested State Legislation

(*Continued from page 242*)

sentee voting by service personnel under state law; and (6) naval record information in relation to state bonus legislation.

Conservation and Natural Resources. A number of recommendations, based on work of the past year by the Council of State Governments Water Resources Committee, are made with respect to administration of state water resource programs. In the light of

severe floods in various parts of the country in 1955, the report also analyzes flood zoning regulations, covering such matters as flood plain zoning, subdivision control, and establishment of channel encroachment lines. Bird protection laws received the committee's attention, and a draft proposal is carried under which all birds except the crow, the English sparrow and the starling would be protected; however, hawks and owls could be shot if found destroying poultry.

Consumer Protection. The report offers suggested legislation for prohibition of "budget planning" and "debt pooling" businesses which collect fees from persons deeply in debt and then pro-rate payments to the creditors. Another suggested measure would require that contractors furnish home buyers and owners a bond to ensure that the contract will be lived up to and that the purchaser of a home, or the homeowner who makes improvements, will not be mulcted by unscrupulous operators. So-called "going-out-of-business" sales and fire sales are regulated in another measure, to the end that such sales will be as represented. Certain amendments are made in a series of draft bills dealing with solicitation of funds for charitable purposes, first carried in *Suggested State Legislation* for 1955. An analytical summary of state action in the field of retail installment financing is included, showing how existing laws seek to regulate the installment finance business and to give consumers protection from unduly high finance charges and sharp practices.

Other Proposals. The report covers a wide range of other subjects. Among them are proposals dealing with pilot authority over airline passengers; enrichment of rice; effective notice to the federal treasury in certain proceedings involving receivers; the "coordinate system" of geodetic surveying. Also presented are an analysis of how state laws may be changed to make full use of the new post-office service of certified mail; an outline of types of provisions for a state litter-prevention law; a statement regarding state laws governing presidential preferential primaries; and another regarding migratory farm labor.

As in past years, *Suggested State Legislation* carries the text of all new acts promulgated by the National Conference of Commissioners on Uniform State Laws. Included are the Uniform Gifts to Minors Act, an Amendment to the Uniform Arbitration Act, and a statement regarding the Uniform Securities Act.

Index to Suggested State Legislation. The committee has been preparing reports for the use of state officials from 1941 on. Having begun as a mechanism of federal-state cooperation for emergency defense and the prosecution of World War II, the committee has branched into many areas of suggested legislation and has become, in the main, a vehicle with which the states can work on common legislative drafting problems.

To make the committee's past work more useful, the Council of State Governments is completing a subject-matter index of the Programs of Suggested State Legislation, 1941 through 1957, and the index soon will be available for distribution to state officials.

Among the States

(*Continued from page 237*)

Juvenile Delinquency.—The **Maryland** Commission for the Prevention and Treatment of Juvenile Delinquency recently brought together its second Governor's Conference of lay civic leaders, social workers, scholars, and public officials from all sections of the state. The conference had fourteen workshops, covering such fields as religion, health, education, institutions, after care, police and court services, employment, recreation, and community organization. The workshops submitted recommendations from which the commission is to prepare a blueprint for action.

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Reciprocal Support.—The Fifth Annual Interstate Conference on Reciprocal Support was held at New Orleans, Louisiana, on October 11–12 under the joint sponsorship of the Council of State Governments and the Louisiana State Department of Public Welfare. General Chairman of the conference was Mary Evelyn Parker, Welfare Commissioner of Louisiana. The attendance list included approximately 125 persons from more than thirty states. Attorneys General, welfare administrators, juvenile court judges, district attorneys and state legislators were strongly represented. Action was taken to create a semi-formal continuing organization to govern conference activities in the future. Ivan H. Smith of the Arkansas State Welfare Department was chosen to head an executive advisory committee established for this purpose.

Among resolutions adopted were proposals dealing with elimination of fees and charges against needy petitioners in a responding state; amendment of the Uniform Reciprocal Enforcement of Support Act to clarify the jurisdiction of courts, transfer of cases, and supplementary enforcement of support orders; use of federal social security and veterans' records in tracing absconding fathers who refuse to support their children; and expansion of central state facilities in order to develop adequate interstate cooperation in administering reciprocal support laws. The conference memorialized Congress for legislation to make support enforcement activities eligible for federal matching under the public assistance program.

Metropolitan Government

Metropolitan growth has become a population phenomenon in America. More than half of our people now live in metropolitan areas. An increasing proportion of them live outside the central cities—in suburbs and fringe sections. Metropolitan government, therefore, is of major concern for many millions, with constant effect on the public facilities and services available to them. But government in the typical metropolitan area is a confusing maze: a great many separate governments, without coordination for the area as a whole. *The Council of State Governments now presents a study designed to assist those who wish to transform the maze into orderly, effective government:*

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JOHN C. BOLLENS, *Director of the Study*

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